gives fibers like v. Monakow's bundle to the anterior horns of the cord, and is probably motor in function.

The cerebral root of the fifth nerve descends lower than the exit of the fifth nerve, and can be traced in frontal sections so long as the vago-glossopharyngeus root fibers can be seen in their exit from the medulla oblongata. The fibers of the cerebral root have relations with the vago-glossopharyngeus nucleus, and the root also contains some ascending fibers.

Probst describes a new bundle which arises in the tegmentum of the pons and descends in the lateral column of the opposite side of the cord. Numerous motor tracts are found in the anterior, as well as in the lateral columns. The direct pyramidal tract in the dog and cat is usually unimportant, but may occasionally be well developed. The anterior column contains the corpora-quadrigemina-anterior-column tract (Vierhügel-Vorderstrangbahn), the fibers of the posterior longitudinal bundle arising in the deep nucleus of the posterior commissure and fibers from the lateral tegmentum of the pons. The bundle from Deiters' nucleus to the ventral peripheral zone (Randzone) contains ascending and descending fibers. SPILLER.

CLINICAL NEUROLOGY.

229. ON THE RELATION OF THE NERVOUS SYSTEM TO DISEASE AND DISORDER OF THE VISCERA. Morison (Edinburgh Medical Journal, 1898, iv., 6, and 1899, v., 1, 2 and 3).

These, the Morison lectures for 1898, are practically the continuation of a course already reviewed in this journal, and are mainly devoted to giving the author's views as to what deductions should be drawn from anatomical facts, as well as from theoretical considerations. The subject is considered under the following heads: 1. Disorders of visceral innervation. 2. Disorders of visceral sensibility. 3. Disorders of visceral motion. The pathology of the visceral nerve ending is non-existent, or, at any rate, unknown, so the author proceeds to consider the finer nerve branches to the different viscera in their normal and pathological condition. As a type of an organ undergoing enormous changes in bulk he takes the uterus and studies its nerve supply is non-gravid and gravid conditions. By a comparison of sections through this organ, made at different periods, he finds that there is some increase in size of the nerves during pregnancy, though it is more apparent than real, as there is no increase in the number or size of the individual nerve fibers. There is, however, greater pliability and looseness in their texture. To account for the nerve supply to the hypertrophied uterine musculature, the author calls attention to the tortuosity of the uterine nerves, especially found in early pregnancy and post partum, the coiling being so marked as to suggest to him "the figurative parallel of paying out a coil of rope to an object, which is increasing its distance from a point of attachment." It is suggested that perhaps the onset of labor pains is due to the fact that the object has gotten to the end of its tether, and "the note is sounded for a return of the organ to more moderate dimensions."

In support of this idea the frequency of premature labor in hydramnios and twin pregnancy is adduced. He next passes to a consideration of the pathology of the ganglion cell and its connections, peripheral and central, but frankly states that the course of the visceral fibers in the central nervous system is too little known at present for us to be able to consider with any profit, lesions associated with "general trophic degradation." Throughout the body there is "a functional unity, which might be more accurately termed a triunity, due to the consentaneous operation for the production of a common result of the peripheral organic cell—whether in brain or muscle—a central regulating cell, and its nerve channels, and the bond of unity between the two, the blood." Next follows a long discussion of the innervation of the heart and vessels, in which the author refers to the researches of himself and others, after which the production of visceral pain is taken up. Referring back to the uterus, he considers some further points in the anatomy of its nerve supply and concludes that the local causes of pain in the parturient organ are uterine and extrauterine, the extrauterine being such as are caused by pressure on surrounding structures, while the uterine are directly proportional to the degree of contraction, and are probably due to the squeezing of sensory nerve structures.

The pain of an ordinary muscle cramp is probably to be explained in the same way. Visceral pain may be absent, even in profound involvement of a viscus, where there is neither inflammation nor production of muscular spasm. Again it may be the peripheral expression of a central lesion.

One of the most interesting parts of the paper is that dealing with the subject of cardiac pain, especially the pain of angina pectoris.

The nerves of the heart are in intimate relation with the cardiac blood vessels and must undoubtedly be affected by changes in their caliber and by alterations of their walls. There again squeezing of the sensory structures and stretching of the nerves—in enlargement of the heart—most probably plays a rôle. Cardiac pain, however, may be of extracardiac origin, as witness the cardiac crises occurring occasionally in tabes, not to speak of the merely reflected pain not uncommon in disturbances of the abdominal viscera. As determining the central causation of cardiac pain little is known, but all the evidence we have is in favor of the spinal, rather than the cranial, nerve supply of the heart as "the chief territory of objective pain."

The pain of meningitis and of some headaches, the author thinks, may arise in the nerves of the membranes of the brain, but on account of the brain being the "seat of perception and the focus of the sensory channels of the body" disease implicating its centers and nerves may cause pain in a manner impossible in any other viscus. Passing on to disorders of visceral motility, the author again takes up the heart, and enters into a discussion of the causes of its motility, which space does not permit us to follow. He next proceeds to show how visceral disorder may underlie somatic motor phenomena as well as sensory phenomena. Last, turning to the brain, he considers it in its receptive, retentive (or connective), and executive functions, and reviewing the character of the nerve cells in different regions of the cortex, gives the reasons for thinking that these functions are there represented in different regions to different degrees. The above gives but a bare outline of these lectures. Those specially interested are referred to the original. The article is well illustrated. ALLEN.

230. ZUR DERMATOMYOSITIS (Contribution to Dermatomyositis). H. Oppenheim (Berliner klin. Wochens., 37, 1899, p. 805).

Two cases of dermatomyositis, or dermatomucosomyositis, are reported. The first case was a boy of eight years, who exhibited an erythematous condition of the skin of the hands, arms and face; edema more especially in the upper facial areas; intense pain on motion; sensitiveness to pressure over the affected muscles, and increased tempera-